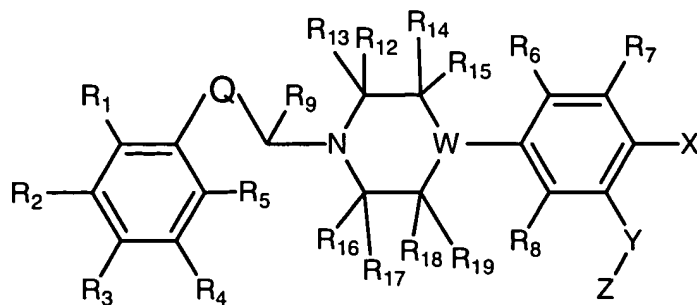


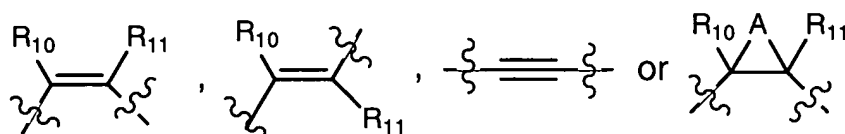
What is claimed is:

1. A compound of the formula:



or a pharmaceutically acceptable salt thereof wherein:

- 5 Q represents a group of the Formula:



wherein A is C₁-C₅ alkylene optionally mono-, di, or trisubstituted with substituents independently chosen from C₁-C₃ alkyl, C₁-C₃ alkoxy, halogen, halo(C₁-C₃)alkyl, halo(C₁-C₃)alkoxy, hydroxy, amino, and mono- or di(C₁-C₃)alkylamino;

- 10 R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ are the same or different and represent hydrogen, halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkyl amino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxycarbonyl, -COOH, -SO₂NH₂, mono or dialkylsulfonamido, -C(O)NH₂, or mono or di(C₁-C₆)alkylcarboxamido;

- 15 R₉, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, and R₁₉ independently represent hydrogen or C₁-C₆ alkyl;

W is nitrogen or C-R_a where R_a represents hydrogen, hydroxy, C₁-C₆ alkoxy, C₁-C₆ alkyl or cyano;

- X represents halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkylamino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxycarbonyl, -COOH, -CONH₂, mono- or di(C₁-C₆)alkylcarboxamido, -SO₂NH₂, mono or di(C₁-C₆)alkylsulfonamido; or

- X represents phenyl which may be optionally substituted with up to five substituents, which are the same or different and are selected from the group consisting of hydrogen, halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkyl amino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxycarbonyl, -COOH, -CONH₂, mono- or di(C₁-C₆)alkylcarboxamido, -SO₂NH₂, mono or di(C₁-C₆)alkylsulfonamido; or

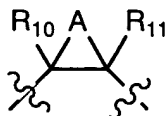
C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxy carbonyl, -COOH, -CONH₂, mono- or di-(C₁-C₆)alkylcarboxamido, -SO₂NH₂, and mono or di(C₁-C₆)alkylsulfonamido;

Y is oxygen, sulfur, -S(O)-, or -SO₂-; and

Z is C₁-C₆ alkyl or mono, di or trifluoromethyl.

5

2. A compound or salt according to claim 1, wherein Q is a group of the Formula:



and A is methylene optionally substituted with C₁-C₂ alkyl.

10 3. A compound or salt according to claim 2, wherein A is methylene and W is nitrogen.

4. A compound or salt according to claim 3, wherein R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, and R₁₉ are hydrogen.

15

5. A compound or salt according to claim 4, wherein:

wherein

X is halogen;

Y is oxygen; and

20 Z is C₁-C₆ alkyl.

6. A compound or salt according to claim 4, wherein:

R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ may be the same or different and represent hydrogen, halogen, C₁-C₆ alkyl, C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;

25 X is hydrogen, halogen, or phenyl;

Y is oxygen; and

Z is C₁-C₆ alkyl.

7. A compound or salt according to claim 4, wherein:

30 R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ may be the same or different and represent hydrogen, halogen, C₁-C₆ alkyl, C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;

X is halogen;

Y is oxygen; and

Z is C₁-C₆ alkyl.

5 8. A compound or salt according to claim 2, wherein A is methylene and W is CH.

 9. A compound or salt according to claim 8, wherein R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, and R₁₉ are hydrogen.

10 10. A compound or salt according to claim 9, wherein:

X is halogen;

Y is oxygen; and

Z is C₁-C₆ alkyl.

15 11. A compound or salt according to claim 9, wherein:

R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ may be the same or different and represent hydrogen, halogen, C₁-C₆ alkyl, C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;

X is hydrogen, halogen, or phenyl;

Y is oxygen; and

20 Z is C₁-C₆ alkyl.

 12. A compound or salt according to claim 9, wherein:

R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ may be the same or different and represent hydrogen, halogen, C₁-C₆ alkyl, C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;

25 X is halogen;

Y is oxygen; and

Z is C₁-C₆ alkyl.

 13. A compound or salt according to Claim 2, of the formula

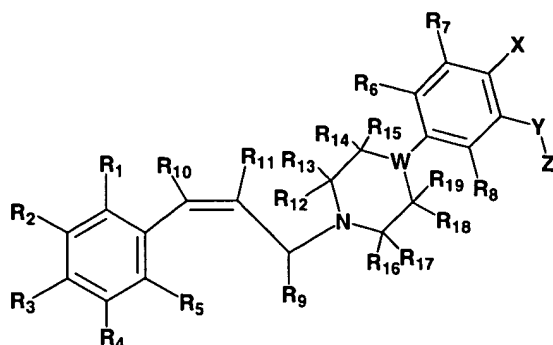


15. A compound or salt according to claim 14, wherein R₁₀, R₁₁, R₁₂, R₁₃, R₁₅, R₁₇, R₁₈, and R₁₉ are hydrogen.

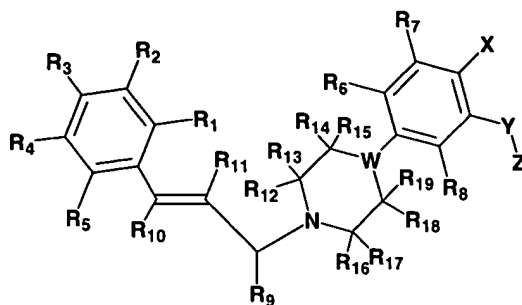
- 10 16. A compound or salt according to claim 15, wherein
R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ independently represent hydrogen, halogen, C₁-C₆ alkyl, C₁-
C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;
R₁₄ and R₁₆ are the same or different and are either hydrogen or methyl;
X is hydrogen, halogen, or phenyl;
15 Y is oxygen; and
Z is C₁-C₆ alkyl.

17. A compound or salt according to Claim 14, wherein
- R₁, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, and R₁₉ are hydrogen;
- 20 R₂, R₃, R₄, and R₅ are independently hydrogen, C₁-C₂ alkyl, C₁-C₂ alkoxy, or halogen;
- X is halogen;
- Y is oxygen; and
- Z is C₁-C₆ alkyl.

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19. A compound or salt according to claim 18, wherein:
R₁₃, R₁₅, R₁₇, R₁₉, are hydrogen; and
5 R₁₀, R₁₁, R₁₂, R₁₄, R₁₆, and R₁₈ independently represent hydrogen or methyl.
20. A compound or salt according to claim 19, wherein R₁₀, R₁₁, R₁₂, R₁₄, R₁₆, and R₁₈ are hydrogen.
- 10 21. A compound or salt according to claim 20, wherein W is N or CH.
22. A compound or salt according to claim 21, wherein:
R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ independently represent hydrogen, halogen, C₁-C₆ alkyl,
C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;
15 X is hydrogen or halogen;
Y is oxygen; and
Z is C₁-C₆ alkyl.
23. A compound or salt according to claim 21, wherein:
20 R₁, R₂, R₃, R₄ independently represent hydrogen, halogen, C₁-C₂alkyl, or C₁-C₂ alkoxy;
R₅, R₆, R₇, and R₈ are hydrogen;
X is halogen;
Y is oxygen; and
Z is C₁-C₆ alkyl.
- 25 24. A compound or salt according to claim 1, of the formula



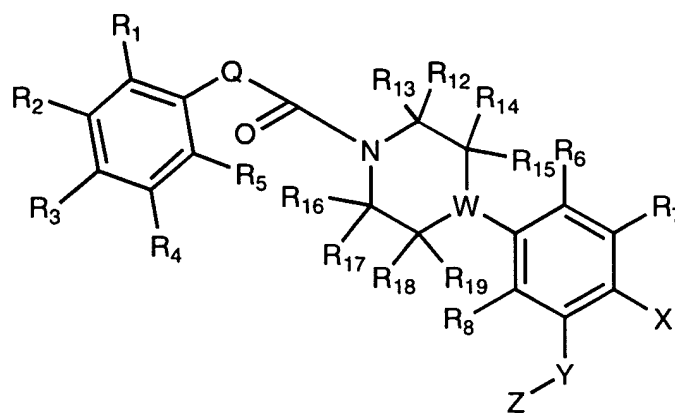
25. A compound or salt according to claim 24, wherein:
 R_{13} , R_{15} , R_{17} , R_{19} , are hydrogen; and
 5 R_{10} , R_{11} , R_{12} , R_{14} , R_{16} , and R_{18} independently represent hydrogen or methyl.
26. A compound or salt according to claim 25, wherein R_{10} , R_{11} , R_{12} , R_{14} , R_{16} , and R_{18} are hydrogen.
- 10 27. A compound or salt according to claim 26, wherein W is N or CH.
28. A compound or salt according to claim 27 wherein
 R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , and R_8 independently represent hydrogen, halogen, C_1 - C_6 alkyl,
 C_1 - C_6 alkoxy, trifluoromethyl, or trifluoromethoxy;
 15 X is hydrogen or halogen;
 Y is oxygen; and
 Z is C_1 - C_6 alkyl.
29. A compound or salt according to Claim 27 wherein
 20 R_1 , R_2 , R_3 , R_4 independently represent hydrogen, halogen, C_1 - C_2 alkyl, or C_1 - C_2 alkoxy;
 R_5 , R_6 , R_7 , and R_8 are hydrogen;
 X is halogen;
 Y is oxygen; and
 Z is C_1 - C_6 alkyl.
- 25 30. A compound or salt according to Claim 1, which is selected from:
 1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperazine;
 (1*S*, 2*S*)-1-(4-bromo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl)methylpiperazine;

- 1*R*, 2*R*-1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperazine;
 1-(4-Iodo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperazine;
 1-(4-Chloro-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperazine;
 1-(4-Phenyl-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperazine;
 5 1-(4-Bromo-3-methoxyphenyl)-4-[*trans*-2-(3-methoxyphenyl)cyclopropyl] methylpiperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-[4-chlorophenyl] cyclopropyl) methylpiperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-[2-methylphenyl] cyclopropyl)methylpiperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-[4-methoxyphenyl] cyclopropyl)methylpiperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine;
 10 1-(4-Iodo-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine;
 1-(4-Chloro-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine;
 1-(4-Methyl-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine;
 1-(4-Trifluormethyl-3-methoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine; and
 1-(4-Bromo-3-ethoxyphenyl)-4-(*trans*-2-phenylcyclopropyl) methylpiperidine; or a
 15 pharmaceutically acceptable salt thereof.

31. A compound or salt according to Claim 1, which is selected from:
 1-(4-Bromo-3-methoxyphenyl)-4-([3-phenyl]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{2-methylphenyl}]propen-2-yl)piperazine;
 20 1-(3-Methoxyphenyl)-4-([3-phenyl]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{3-methylphenyl}]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{2-methoxyphenyl}]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{3-chlorophenyl}]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{3-ethoxyphenyl}]propen-2-yl)piperazine;
 25 1-(4-Bromo-3-methoxyphenyl)-4-([3-{2,3-dimethoxyphenyl}]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{3,4-dimethoxyphenyl}]propen-2-yl)piperazine;
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{2,5-dimethoxyphenyl}]propen-2-yl)piperazine; and
 1-(4-Bromo-3-methoxyphenyl)-4-([3-{2,4-dimethoxyphenyl}]propen-2-yl)piperazine, or a
 pharmaceutically acceptable salt thereof.

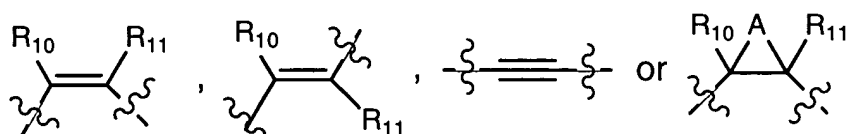
30

32. A compound of the formula:



wherein:

Q represents a group of the Formula:



5 wherein A is C₁-C₅ alkylene optionally mono-, di, or trisubstituted with substituents independently chosen from C₁-C₃ alkyl, C₁-C₃ alkoxy, halogen, halo(C₁-C₃)alkyl, halo(C₁-C₃)alkoxy, hydroxy, amino, and mono- or di(C₁-C₃)alkylamino;

R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ are the same or different and represent hydrogen, halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkyl amino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxycarbonyl, -COOH, -SO₂NH₂, mono or dialkylsulfonamido, -C(O)NH₂, or mono or di(C₁-C₆)alkylcarboxamido;

10 R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, and R₁₉ independently represent hydrogen or C₁-C₆ alkyl;

W is nitrogen or C-R_a where R_a represents hydrogen, hydroxy, C₁-C₆ alkoxy, C₁-C₆ alkyl or cyano;

X represents halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆ alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkylamino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy, C₁-C₆ alkanoyl, C₁-C₆ alkoxycarbonyl, -COOH, -CONH₂, mono- or di(C₁-C₆)alkylcarboxamido, -SO₂NH₂, mono or di(C₁-C₆)alkylsulfonamido; or

20 X represents phenyl which may be optionally substituted by up to five substituents, which may be the same or different and are selected from the group consisting of hydrogen, halogen, cyano, nitro, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₁-C₆

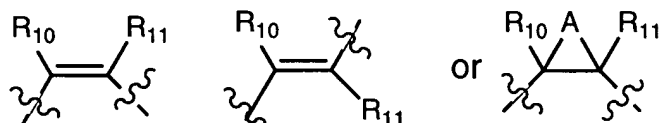
alkylthio, hydroxy, amino, mono or di(C₁-C₆)alkyl amino, halo(C₁-C₆)alkyl, halo(C₁-C₆)alkoxy,

C₁-C₆ alkanoyl, C₁-C₆ alkoxy carbonyl, -COOH, -CONH₂, mono- or di-(C₁-C₆)alkylcarboxamido, -SO₂NH₂, and mono or di(C₁-C₆)alkylsulfonamido;

5 Y is oxygen, sulfur, -S(O)-, or -SO₂-; and

Z is C₁-C₆ alkyl or mono, di or trifluoromethyl.

33. A compound or salt according to claim 32, wherein Q is a group the formula



10 where A is methylene optionally substituted with C₁-C₂ alkyl or A is a single bond.

34. A compound according to claim 32, wherein W is nitrogen or CH.

35. A compound according to claim 34, wherein R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇,

15 R₁₈, and R₁₉ are hydrogen.

36. A compound according to claim 35 wherein:

X is halogen;

Y is oxygen; and

20 Z is C₁-C₆ alkyl.

37. A compound according to Claim 35 wherein

R₁, R₂, R₃, R₄, R₅, R₆, R₇, and R₈ may be the same or different and represent hydrogen, halogen, C₁-C₆ alkyl, C₁-C₆ alkoxy, trifluoromethyl, or trifluoromethoxy;

25 X is halogen;

Y is oxygen; and

Z is C₁-C₆ alkyl.

38. A pharmaceutical composition comprising a compound or salt according Claim 1

30 combined with at least one pharmaceutically acceptable carrier or excipient.

39. The pharmaceutical composition of Claim 38 wherein the pharmaceutical composition is formulated as an injectable fluid, a pill, a capsule, a syrup, or a transdermal patch.

5 40. A method for the treatment of obesity, said method comprising administering to a patient in need of such treatment a therapeutically effective amount of a compound of Claim 1.

10 41. A method for demonstrating the presence of MCH 1 receptors in cell or tissue samples, said method comprising:

 preparing a plurality of matched cell or tissue samples,

 preparing at least one control sample by contacting under conditions that permit binding of MCH to MCH 1 receptors within cell and tissue samples at least one of the matched cell or tissue samples with a control solution comprising a detectably-labeled preparation of a selected compound or salt of Claims 1 at a first measured molar concentration, said control solution further comprising an unlabelled preparation of the selected compound or salt at a second measured molar concentration, which second measured concentration is greater than said first measured concentration,

 preparing at least one experimental sample by contacting under conditions that permit binding of MCH to MCH 1 receptors within cell and tissue samples at least one of the matched cell or tissue samples with an experimental solution comprising the detectably-labeled preparation of the selected compound or salt at the first measured molar concentration, said experimental solution not further comprising an unlabelled preparation of any compound or salt of any of Claim 1 at a concentration greater than or equal to said first measured concentration;

 washing the at least one control sample to remove unbound selected compound or salt to produce at least one washed control sample;

 washing the at least one experimental sample to remove unbound selected compound or salt to produce at least one washed experimental sample;

30 measuring the amount of detectable label of any remaining bound detectably-labeled selected compound or salt in the at least one washed control sample;

 measuring the amount detectable label of any remaining bound detectably-labeled selected compound or salt in the at least one washed experimental sample;

comparing the amount of detectable label measured in each of the at least one washed experimental sample to the amount of detectable label measured in each of the at least one washed control sample

5 wherein, a comparison that indicates the detection of a greater amount of detectable label in the at least one washed experimental sample than is detected in any of the at least one washed control samples demonstrates the presence of MCH 1 receptors in that experimental sample.

10 42. The method of Claim 41 wherein the compound is radiolabeled.

43. The method of Claim 42 wherein the detection is accomplished using autoradiography.

15 44. A method for altering the signal-transducing activity of MCH 1 receptors, said method comprising contacting cells expressing such receptors with a solution comprising a compound according to Claim 1 at a concentration sufficient to detectably alter the electrophysiology of the cell, wherein a detectable alteration of the electrophysiology of the cell indicates an alteration of the signal-transducing activity of MCH 1 receptors.

20 45. The method of Claim 44 wherein the cell is a neuronal cell that is contacted in vivo in an animal, the solution is a body fluid, and the alteration in the electrophysiology of the cell is detected as a reproducible change in the animal's feeding behavior.

25 46. The method of Claim 45 wherein the animal is a human, the cell is a brain cell, and the fluid is cerebrospinal fluid.

30 47. A packaged pharmaceutical composition comprising the pharmaceutical composition of Claim 38 in a container and instructions for using the composition to treat a patient suffering from obesity.